

U.S. Application Serial No.: 10/801,416

Paul C. Mioduski et al.

RCE PRELIMINARY AMENDMENT - FINAL OFFICE ACTION 7/18/2007

REMARKS

The Office Action rejects claims 5-7 as being anticipated by USP 7022121 (Stern). The Office Action rejects claim 25 as being anticipated by USP 6104952 (Tu). Applicants have cancelled claims 5-7 and 25 which renders the 102 rejections moot.

Applicants have added new claims 26-50.

New claim 26 recites a medical treatment device for treating tissue comprising a radio frequency (RF) generator for providing an RF signal. A probe is coupled to the RF generator for transmitting RF energy from the RF signal into the tissue to be treated. The RF energy is imparted into the tissue to increase its temperature while maintaining a cold junction of the probe. The probe includes a sensor for measuring the temperature of the tissue and provides a measured temperature signal. A control unit is coupled to the RF generator for controlling the RF signal in response to the measured temperature signal from the probe.

None of the prior art references of record, including Stern and Tu, teach or suggest at least a probe coupled to the RF generator for transmitting RF energy from the RF signal into the tissue to be treated. The RF energy is imparted into the tissue to increase its temperature while maintaining a cold junction of the probe. In the prior art references, the probe itself is heated and the heated probe is applied to transfer thermal energy, not RF energy, to increase the temperature of the tissue. The probes in the prior art references do not operate with a cold junction temperature. Indeed, Stern must apply cooling fluid to RF electrode 20 to make the device effective,

U.S. Application Serial No.: 10/801,416

Paul C. Mioduski et al.

RCE PRELIMINARY AMENDMENT - FINAL OFFICE ACTION 7/18/2007

see column 5, lines 14-25 and 52-63. In claim 26, the RF energy is transferred into the tissue to agitate the cells and raise the temperature. The probe itself maintains a cold junction temperature.

Accordingly, new claim 26 is believed to patentably distinguish over the prior art references of record. New claims 27-33 are believed to be in condition for allowance as each is dependent from an allowable base claim.

New claim 34 recites a medical instrument for treating tissue comprising a high frequency energy generator for providing an energy signal. A probe is coupled to the high frequency energy generator for transmitting the energy signal into the tissue to be treated. The energy signal is imparted into the tissue to increase its temperature while maintaining a cold junction temperature of the probe. The probe includes a sensor for measuring the temperature of the tissue and provides a measured temperature signal. A control unit is coupled to the high frequency energy generator for controlling the energy signal in response to the measured temperature signal from the probe to maintain the temperature of the tissue at a target temperature. An enclosure houses the high frequency energy generator and control unit. The enclosure has a control knob for selecting the target temperature, a display for displaying the measured temperature signal, and a connector for connecting the probe.

None of the prior art references of record, including Stern and Tu, teach or suggest at least a probe coupled to the high frequency energy generator for transmitting the energy signal into the tissue to be treated. The energy signal is imparted into the tissue to increase its temperature while maintaining a

U.S. Application Serial No.: 10/801,416

Paul C. Mioduski et al.

RCE PRELIMINARY AMENDMENT - FINAL OFFICE ACTION 7/18/2007

cold junction temperature of the probe. In the prior art references, the probe itself is heated and the heated probe is applied to transfer thermal energy, not high frequency energy, to increase the temperature of the tissue. The probes in the prior art references do not operate with a cold junction temperature. In claim 34, the energy signal is transferred to the tissue to raise its temperature. The probe itself maintains a cold junction temperature.

Accordingly, new claim 34 is believed to patentably distinguish over the prior art references of record. New claims 35-39 are believed to be in condition for allowance as each is dependent from an allowable base claim.

New claim 40 recites a medical treatment device for treating tissue comprising an energy generator for providing an energy signal. A probe has first and second tips coupled to the energy generator for transmitting the energy signal into the tissue to be treated. The energy signal is imparted into the tissue to increase its temperature while maintaining a cold junction temperature of the first and second tips of the probe. A control unit is coupled to the energy generator for controlling the energy signal.

None of the prior art references of record, including Stern and Tu, teach or suggest at least a probe having first and second tips coupled to the energy generator for transmitting the energy signal into the tissue to be treated. The energy signal is imparted into the tissue to increase its temperature while maintaining a cold junction temperature of the first and second tips of the probe. In the prior art references, the probe itself is heated and the heated probe is applied to transfer thermal energy, not high frequency energy, to increase the

U.S. Application Serial No.: 10/801,416

Paul C. Mioduski et al.

RCE PRELIMINARY AMENDMENT - FINAL OFFICE ACTION 7/18/2007

temperature of the tissue. The probes in the prior art references do not operate with a cold junction temperature. In claim 40, the energy signal is transferred to the tissue to raise its temperature. The probe itself maintains a cold junction temperature.

Accordingly, new claim 40 is believed to patentably distinguish over the prior art references of record. New claims 41-45 are believed to be in condition for allowance as each is dependent from an allowable base claim.

New claim 46 recites a method of treating tissue comprising the steps of generating an radio frequency (RF) signal, and transmitting RF energy from the RF signal into the tissue to be treated through a probe. The RF energy is imparted into the tissue to increase its temperature while maintaining a cold junction temperature of the probe. The method further includes the steps of providing a sensor in the probe for measuring the temperature of the tissue and providing a measured temperature signal, and controlling the RF signal in response to the measured temperature signal from the probe.

None of the prior art references of record, including Stern and Tu, teach or suggest at least the step of transmitting RF energy from the RF signal into the tissue to be treated through a probe. The RF energy is imparted into the tissue to increase its temperature while maintaining a cold junction temperature of the probe. In the prior art references, the probe itself is heated and the heated probe is applied to transfer thermal energy, not RF energy, to increase the temperature of the tissue. The probes in the prior art references do not operate with a cold junction temperature. In claim 46, the RF energy is

U.S. Application Serial No.: 10/801,416

Paul C. Mioduski et al.

RCE PRELIMINARY AMENDMENT - FINAL OFFICE ACTION 7/18/2007

transferred to the tissue to raise its temperature. The probe itself maintains a cold junction temperature.

Accordingly, new claim 46 is believed to patentably distinguish over the prior art references of record. New claims 47-50 are believed to be in condition for allowance as each is dependent from an allowable base claim.

Applicants believe that all information and requirements for the application have been provided to the USPTO. If there are matters that can be discussed by telephone to further the prosecution of the Application, Applicants invite the Examiner to call the undersigned attorney at the Examiner's convenience.

The Commissioner is hereby authorized to charge any fees due with this Response to U.S. PTO Account No. 17-0055.

Respectfully submitted,
QUARLES & BRADY LLP

November 19, 2007

By: 

Robert D. Atkins
Reg. No. 34,288

Address all correspondence to:

Robert D. Atkins

Quarles & Brady LLP

One Renaissance Square

Two North Central Avenue

Phoenix, AZ 85004

Telephone: (602) 250-5290

Facsimile: (602) 250-5690

Email: ratkins@quarles.com